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Claims

1. A recording apparatus, characterized by comprising:

5 bit pattern determining means which determines a bit pattern of coupling bits to be inserted into predetermined positions of main data encoded by a predetermined recording/encoding format, and is able to determine said bit pattern of said coupling bits based on sub data to be recorded on a
10 recording medium together with said main data;

coupling bits inserting means for inserting said coupling bits of said bit pattern determined by said bit pattern determining means into said predetermined positions of said encoded main data; and

15 recording means for recording information formed by inserting said coupling bits into said main data, on said recording medium.

2. The recording apparatus according to claim 1,
20 characterized in that:

said bit pattern determining means is configured to carry out the determination of a bit pattern based on said sub data with regard to coupling bits to be inserted between two signal units both of which have fixed bit patterns and
25 are in a forward and backward relation among signal units forming said main data.

3. The recording apparatus according to claim 2,
characterized in that:

30 said two signal units are a frame synchronizing signal and a subcode sync.

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4. A recording method, characterized by executing;
a bit pattern determining sequence which determines
a bit pattern of coupling bits to be inserted into predetermined
positions of main data encoded by a predetermined
recording/encoding format, and is able to determine said bit
pattern of said coupling bits based on sub data to be recorded
on a recording medium together with said main data;
a coupling bits inserting sequence for inserting
10 said coupling bits of said bit pattern determined by said bit
pattern determining sequence into said predetermined
positions of said encoded main data; and
a recording sequence for recording information
formed by inserting said coupling bits into said main data,
15 on said recording medium.

5. The recording method according to claim 4,
characterized in that:
said bit pattern determining sequence is configured
20 to carry out the determination of a bit pattern based on said
sub data with regard to coupling bits to be inserted between
two signal units both of which have fixed bit patterns and
are in a forward and backward relation among signal units
forming said main data.

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6. The recording method according to claim 5,
characterized in that:
said two signal units are a frame synchronizing signal
and a subcode sync.

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7. A reproducing apparatus, characterized by

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comprising:

reading means for extracting and reading coupling bits from a recording medium recording information constituted by at least main data encoded by a predetermined recording/encoding format and said coupling bits to be inserted into predetermined positions of said main data; and

data value acquiring means for acquiring a data value served as sub data by utilizing a bit pattern of said coupling bits read by said reading means.

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8. The reproducing apparatus according to claim 7, characterized in that:

15 said reading means extracts coupling bits inserted between two signal units both of which have fixed bit patterns and are in a forward and backward relation among signal units forming said main data; and

20 said data value acquiring means acquires said value data served as sub data based on the combination of either one of bit patterns held by said two signal units and a bit pattern of said coupling bits.

9. The reproducing apparatus according to claim 8, characterized in that:

25 said two signal units are a frame synchronizing signal and a subcode sync.

10. A reproducing method, characterized by executing:

a reading sequence for extracting and reading coupling bits from a recording medium recording information constituted by at least main data encoded by a predetermined recording/encoding format and said coupling bits to be inserted

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into predetermined positions of said main data; and
a data value acquiring sequence for acquiring a data
value served as sub data by utilizing a bit pattern of said
coupling bits read by said reading sequence.

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11. The reproducing method according to claim 10,
said reading sequence extracts coupling bits
inserted between two signal units both of which have fixed
bit patterns and are in a forward and backward relation among
10 signal units forming said main data; and
said data value acquiring sequence acquires said data
value served as sub data based on the combination of either
one of bit patterns held by said two signal units and a bit
pattern of said coupling bits.

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12. The reproducing method according to claim 11,
characterized in that said:
two signal units are a frame synchronizing signal
and a subcode sync.

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13. A recording medium, characterized by recording
information constituted by main data encoded by a predetermined
recording/encoding format and coupling bits to be inserted
into predetermined positions of said main data; wherein
25 said coupling bits are recorded with a bit pattern
corresponding to a data value served as sub data.

14. The recording medium according to claim 13,
characterized in that:
30 said coupling bit having a bit pattern corresponding
to said data value served as sub data is inserted between two

signal units both of which have fixed bit pattern and are in a forward and backward relation among signal units forming said main data.

5 15. The recording medium according to claim 14,
characterized in that:

 said two signal units are a frame synchronizing signal
and a subcode sync.

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